IN THE CLAIMS:

Please amend claims 1-16 and add new claims 17-18 as follows.

1. (Currently Amended) A method ~~for processing data arrays that collectively~~ ~~describe cyclic behavior of at least one variable in several entities in a physical process;~~ ~~the method~~ comprising:

determining a first cycle in the cyclic behavior and dividing the first cycle into multiple time slots;

determining multiple data arrays, each data array containing multiple data items such that each data item describes a variable of an entity in one time slot;

for each of the several entities, determining a specific magnitude parameter;

scaling the data arrays between entities such that the specific magnitude parameters are suppressed;

training a clustering system with a first plurality of the scaled data arrays to determine a set of cluster centers; and

using the trained clustering system to cluster a second plurality of the scaled data arrays,

<u>wherein the method further comprises processing data arrays that collectively describe cyclic behavior of at least one variable in several entities in a physical process to obtain the second plurality of the scaled data arrays for use in determining at least one condition.</u>

2. (Currently Amended) A The method according to claim 1, wherein the specific magnitude parameters are determined separately for each first cycle.

3. (Currently Amended) A The method according to claim 1, further comprising determining a second cycle that is a multiple of the first cycle and re-clustering the clustered data arrays in respect of the second cycle.

4. (Currently Amended) A The method according to claim 1, further comprising processing the suppressed specific magnitude parameter separately from the clustering system.

5. (Currently Amended) A The method according to claim 1, wherein the clustering system is an unsupervised clustering system.

6. (Currently Amended) A The method according to claim 5, further comprising initializing the unsupervised clustering system with a-priori seed values prior to said training.

7. (Currently Amended) A The method according to claim 1, further comprising:

associating predetermined confidence interval with the cluster centers;

for each clustered data array of the second plurality, determining a best-matching cluster center and checking if the clustered data array is within said predetermined confidence interval of the best-matching cluster center;

if the clustered data array is within said predetermined confidence interval of the

best-matching cluster center yes, archiving an indicator of the best-matching cluster

center and discarding the data array in question; or

if the clustered data array is within said predetermined confidence interval of the

best-matching cluster center not, archiving data items of the data array for those time

slots in which the clustered data array is not said within said predetermined confidence

interval.

8. (Currently Amended) A The method according to claim 7, wherein the

confidence interval narrows progressively with increasing magnitude parameter of the

variable described.

9. (Currently Amended) A The method according to claim 1, further comprising

using the clustered second plurality of the scaled data arrays to detect anomalous

situations.

10. (Currently Amended) A The method according to claim 1, further comprising

using the clustered second plurality of the scaled data arrays to determine a pricing

strategy.

11. (Currently Amended) A The method according to claim 1, wherein the scaled

data arrays represent usage of services by various subscribers, and the method further

comprises using the clustered second plurality of the scaled data arrays to select

candidate subscribers for service advertising.

12. (Currently Amended) A The method according to claim 1, wherein said several entities are network resources and the method further comprises:

using the scaled data arrays to determine a set of optimized operating parameters for a network resource; and

copying the optimized operating parameters to another network resource.

13. (Currently Amended) A computer program product embodied on a computer readable medium, the computer program product comprising program code for controlling a processor to execute a method comprising data processing system for processing data arrays that collectively describe cyclic behavior of at least one variable in several entities in a physical process, wherein the cyclic behavior exhibits at least a repeating first cycle and each first cycle comprises multiple time slots; the data processing system comprising:

an input routine for receiving multiple data arrays, each data array containing multiple data items such that each data item describes a variable of an entity in one time slot;

a magnitude-determination routine for determining a specific magnitude parameter for each of the several entities;

a scaling routine for scaling the data arrays between entities such that the specific magnitude parameters are suppressed;

a training routine for training a clustering system with a first plurality of the scaled

data arrays, to determine a set of cluster centers; and

a clustering routine for clustering a second plurality of the scaled data arrays with the trained clustering system,

wherein the method further comprises processing data arrays that collectively describe cyclic behavior of at least one variable in several entities in a physical process to obtain the second plurality of the scaled data arrays for use in determining at least one condition, wherein the cyclic behavior exhibits at least a repeating first cycle and each first cycle comprises multiple time slots.

14. (Currently Amended) The computer program product A data processing system according to claim 13, wherein the a magnitude-determination routine is operable to determine the specific magnitude parameters separately for each first cycle.

15. (Currently Amended) The computer program product A data processing system according to claim 13, further comprising a routine for processing the suppressed specific magnitude parameter separately from the clustering system.

16. (Currently Amended) The computer program product A data processing system according to claim 13, further comprising an archival routine operable:

to associate a predetermined confidence interval with the cluster centers;

for each clustered data array of the second plurality, to determine a best-matching cluster center and to check if the clustered data array is within said predetermined confidence interval of the best-matching cluster center;

if the clustered data array is within said predetermined confidence interval of the best-matching cluster center yes, to archive an indicator of the best-matching cluster center and to discard the data array in question; or

if the clustered data array is within said predetermined confidence interval of the best-matching cluster center not, to archive data items of the data array for those time slots in which the clustered data array is not said within said predetermined confidence interval.

17. (New) An apparatus comprising:

a determining unit configured to determine a first cycle in the cyclic behavior and dividing the first cycle into multiple time slots;

a unit configured to determine multiple data arrays, each data array containing multiple data items such that each data item describes a variable of an entity in one time slot;

for each of the several entities, a unit configured to determine a specific magnitude parameter;

a scaling unit configured to scale the data arrays between entities such that the specific magnitude parameters are suppressed;

a training unit configured to train a clustering system with a first plurality of the scaled data arrays to determine a set of cluster centers; and

a unit configured to use the trained clustering system to cluster a second plurality

of the scaled data arrays,

wherein the apparatus is used for processing data arrays that collectively describe cyclic behavior of at least one variable in several entities in a physical process to obtain the second plurality of the scaled data arrays for use in determining at least one condition.

18. (New) An apparatus comprising:

determining means for determining a first cycle in the cyclic behavior and dividing the first cycle into multiple time slots;

determining means for determining multiple data arrays, each data array containing multiple data items such that each data item describes a variable of an entity in one time slot;

for each of the several entities, determining means for determining a specific magnitude parameter;

scaling means for scaling the data arrays between entities such that the specific magnitude parameters are suppressed;

training means for training a clustering system with a first plurality of the scaled data arrays to determine a set of cluster centers; and

means for using the trained clustering system to cluster a second plurality of the scaled data arrays,

wherein the apparatus is used for processing data arrays that collectively describe cyclic behavior of at least one variable in several entities in a physical process to obtain the second plurality of the scaled data arrays for use in determining at least one condition.